

CLAIMS:

1. In an externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, a method of controlling start-up of the transmitter comprising the steps:

- maintaining the laser in a disabled (off) mode;
- operating the SOA so as to generate a broad spectrum of amplified spontaneous emission (ASE) light output;
- biasing the modulator substantially to a modulator minimum transmission state;
- turning off the SOA; and
- turning on the laser.

2. A method according to claim 1 wherein the step of biasing the modulator substantially to a modulator minimum transmission state comprises:

- sweeping the modulator over a range of bias voltages and monitoring the modulator output power to determine the bias voltage vs. transmission characteristic of the modulator; and
- biasing the modulator to a minimum transmission state as determined by the preceding step.

3. A method according to claim 2 wherein monitoring of the modulator output power is carried out by a transmitter power monitor photodiode positioned after the external modulator.

sweeping the modulator over a range of bias voltages
5 and monitoring the modulator output power to determine the bias
voltage vs. transmission characteristic of the modulator; and

10. A method according to claim 9 wherein monitoring of
10 the modulator output power is carried out by a transmitter
power monitor photodiode positioned after the external
modulator.

15 12. A method according to claim 8 wherein the external
modulator is a Mach-Zehnder interferometer modulator.

20 14. A method according to claim 8 wherein the continuous
wave (CW) laser is a tunable laser.

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computer readable program code means for biasing the modulator substantially to a modulator minimum transmission state;

10 computer readable program code means for turning on
the laser.

computer readable/program code means for sweeping the
15 modulator over a range of bias voltages;

computer readable program code means for biasing the
20 modulator to a minimum transmission state as determined by the
preceding step.

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turning on the laser.

20. An externally modulated wavelength division
25 multiplexed (WDM) optical transmitter comprising a continuous
wave (CW) laser, a semiconductor optical amplifier (SOA)
positioned after the laser and an external modulator positioned

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